

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-19. (canceled)

20. (previously presented) An arithmetic performance attribution method for determining portfolio performance, relative to a benchmark, over multiple time periods  $t$ , where  $t$  varies from 1 to  $T$ , comprising the steps of:

(a) determining coefficients  $(A + \alpha_t)$ , where the values  $\alpha_t$  are defined as

$$\alpha_t = \left[ \frac{R - \bar{R} - A \sum_{k=1}^T (R_k - \bar{R}_k)}{\sum_{k=1}^T (R_k - \bar{R}_k)^2} \right] (R_t - \bar{R}_t),$$

where  $A$  has any predetermined value,  $R_t$  is a portfolio return for period  $t$ ,  $\bar{R}_t$  is a benchmark return for period  $t$ ,  $R$  is determined by

$$R = \left[ \prod_{t=1}^T (1 + R_t) \right] - 1,$$

and  $\bar{R}$  is determined by

$$\bar{R} = \left[ \prod_{t=1}^T (1 + \bar{R}_t) \right] - 1;$$

and

(b) determining the portfolio performance as

$$R - \bar{R} = \sum_{t=1}^T (A + \alpha_t)(R_t - \bar{R}_t).$$

21. (previously presented) The method of claim 20, wherein  $A$  is

$$A = \frac{1}{T} \left[ \frac{(R - \bar{R})}{(1 + R)^{1/T} - (1 + \bar{R})^{1/T}} \right], \text{ where } R \neq \bar{R},$$

or for the special case  $R = \bar{R}$ :

$$A = (1 + R)^{(T-1)/T}.$$

22. (previously presented) The method of claim 20, wherein  $A = 1$ .

23. (previously presented) The method of claim 20, wherein step (b) is performed by determining the portfolio performance as

$$R - \bar{R} = \sum_{t=1}^T \sum_{i=1}^N (A + \alpha_i)(I_{it}^A + S_{it}^A),$$

where  $I_{it}^A$  is an issue selection for sector  $i$  and period  $t$ , and  $S_{it}^A$  is a sector selection for sector  $i$  and period  $t$ .

24. (previously presented) A geometric performance attribution method for determining portfolio performance, relative to a benchmark, over multiple time periods  $t$ , where  $t$  varies from 1 to  $T$ , comprising the steps of:

determining attribution effects for issue selection  $(1 + I_{it}^G)$  given by

$$1 + I_{it}^G = \frac{1 + w_{it} r_{it}}{1 + w_{it} \bar{r}_{it}} \Gamma_t^I,$$

and determining attribution effects for sector selection  $(1 + S_{it}^G)$  given by

$$1 + S_{it}^G = \left( \frac{1 + w_{it} \bar{r}_{it}}{1 + \bar{w}_{it} \bar{r}_{it}} \right) \left( \frac{1 + \bar{w}_{it} \bar{R}_t}{1 + w_{it} \bar{R}_t} \right) \Gamma_t^S,$$

where  $r_{jt}$  is a portfolio return for sector  $j$  for period  $t$ ,  $\bar{r}_{jt}$  is a benchmark return for sector  $j$  for period  $t$ ,  $w_{jt}$  is a weight for  $r_{jt}$ ,  $\bar{w}_{jt}$  is a weight for  $\bar{r}_{jt}$ ,  $R$  is determined by

$$R = \left[ \prod_{t=1}^T (1 + R_t) \right] - 1$$

and  $\bar{R}$  is determined by

$$\bar{R} = \left[ \prod_{t=1}^T (1 + \bar{R}_t) \right] - 1;$$

and determining the portfolio performance as

$$\frac{1 + R}{1 + \bar{R}} = \prod_{t=1}^T \prod_{i=1}^N (1 + I_{it}^G)(1 + S_{it}^G).$$

25-28. (canceled)